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A Demographic Estimate of the Population of the Qing Eight Banners

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Introduction

The Eight Banners (Chinese *baqi* 八旗/Manchu *jakūn gūsa*) is well known as the omnibus military, social, political, and economic institution that played a crucial role in enabling the Manchu conquest of China in the middle seventeenth century and the establishment of the Qing state (1644-1912), the last of China's dynastic regimes. Along with their Mongol and Han allies in the banners, the Manchus were vastly outnumbered by Han Chinese supporters of the Ming state (1368-1644), not to mention various rebel armies, and formed a tiny group next to the general Chinese population. Yet, despite being so greatly outnumbered, they nonetheless seized and retained power for 267 years.

The sustained success of Manchu minority rule remains one of the great conundrums of modern Chinese history. While many analyses have been offered to explain this puzzle, a basic piece of information essential to scholarly consideration of this problem – the size of the Qing armies – has long eluded precise substantiation. Not surprisingly, in the early decades of the Qing period the sort of information that would allow one to know this figure was kept a military secret. The first edition of the *Da Qing Huidian* 大清會典 (Collected institutes of the great Qing), completed in 1690, contained information on the number of troops stationed around the

country, but pointedly refrained from revealing the exact number of soldiers in the capital.¹ This taboo was observed until the middle of the eighteenth century, so that until then, most people had only a hazy idea of the total size of the Manchu armed forces.

Only much later in the dynasty did estimates of the total number of soldiers involved in the conquest begin to surface, based on crude methods of extrapolation that depended upon guesses of the number of households and their size. For instance, in *Shengwu ji* 聖武記, a history of the military campaigns led by the Qing emperors first published in 1839, Wei Yuan 魏源 (1794-1856), tried to figure out how many troops the Qing were able to put into the field in 1644. He wrote that just before the conquest there was a total of four hundred companies (*zuoling* 佐領/*niru*), of which 308 were Manchu (*Manzhou* 滿洲/*Manju*), 76 Mongol (*Menggu* 蒙古/*Monggo*), and 16 Han bannermen (*Han jun* 漢軍/*ujen cooha*). Multiplying the number of companies that existed in 1644 by 150 (his guess as to how many soldiers there were per company) yielded a total of 87,150 banner troops: 46,200 Manchus, 16,840 Mongols, and 24,050 Hanjun. At the same time, Wei stated that the number of soldiers right after the conquest was “not less than 200,000 men” in size.² Unfortunately, he skipped over the obvious discrepancy between these two figures, leaving the reader wondering what the number really was.

Despite their clear limitations, methods like this have continued to be the most common means of trying to estimate the size banner population. The aim of this essay is to present a technique for estimating the banner population that combines instead totals of *ding* populations found in the Qing archives with standard demographic models of population configuration and growth. The discussion is divided into three sections. By way of background, the first section summarizes previous estimates made of banner populations. The second section discusses figures regarding the adult male banner population in the early Qing that have emerged from the

First Historical Archives in Beijing. The third section then introduces a way to use these figures to calculate a range of possible population sizes and offers the results of these calculations for the entire banner population. In this way, we hope to provide more satisfactory answers to three basic questions: How many people were there in the Eight Banners? What were the respective populations of the Manchu, Mongol, and Chinese banners? How did these populations change over time?

Previous Estimates of Eight Banner Population

In general, up to now scholars have had only one way of estimating the total Eight Banner population, and that has been to take what they believed to be the most reliable figure for banner males and multiply it by an estimated ratio of dependents per bannerman to arrive at a guess as to total household size. That is, for every banner male (m), assume n additional household dependents, so that the total banner population (P) is derived according to the following equation (Equation 1):

$$P = m + n(m) \quad (1)$$

We refer to this as the “Household Dependent Method.”

There are two obvious problems with this method. The first has to do with which figure to assume for m . Estimates of the number of banner males diverge widely, depending on whether they calculate from the number of companies in the banners, from the number of positions in the banner military establishment, or from other estimates that have appeared over time as to the size of the banner forces. The former method, though widely employed, is suspect because the actual number of soldiers per company varied greatly, both between companies and even within the same company over time.³ Moreover, different sources disagree on the total

number of companies at any given time.⁴ In addition, differences between estimates often lead to further confusion because many fail to distinguish clearly between able-bodied males (*ding*, *zhuangding* 丁, 壯丁/*haha*) and those among them who were actually soldiers (*bing*, *bingding* 兵, 兵丁/*uksin*) or officers (*guan* 官/*hafan*) in paid positions.⁵ These sorts of complications have resulted in great discrepancies between estimates, limiting our confidence in them.

A second problem with the Household Dependent Method is that there is no reliable way of knowing the size of the average household in the Eight Banners, that is, no way of knowing what number to use for *n*. Archival figures show that the ratio of dependents to bannerman varied 300 percent, from as low as 3:1 to as high as 9:1.⁶ One could, of course, simply split the difference and hope for the best, but it is hard to put much faith in the resulting calculations. Things are made even more complicated by the inclusion of bondservants (*bao-yi* 包衣/*booi*, *booi aha*) within household numbers, where they figure as part of dependents *n*, whereas in regular counts of banner population bondservants appear as separate households. We have next to no information on the size of bondservant households.⁷

A glance at the history of estimates of Eight Banner population shows how unlikely they are to yield consistent, reliable figures. The earliest such estimates were those that began to emerge in the reigns of the Yongzheng (1723-1735) and Qianlong (1736-1795) emperors, when rapid population growth in the banners first attracted the attention of officials at court, who expressed concern that the support of so many people imposed an unsustainable fiscal burden upon the state. In separate essays, officials Šuhede (Shu-he-de 舒赫德) and Shen Qiyuan 沈起元 wrote that at the time of the conquest there were 80,000 soldiers in the banners, and that this number grew to 120,000 during the Kangxi reign (1661-1722), shrinking slightly by the Qianlong reign to 100,000.⁸ But these numbers likely referred only to soldiers in Beijing, and

did not include the garrisons in the wider metropolitan area, the Chinese provinces, the Northeast, and, later, the frontier areas, so they reflect a clear undercount. The source of these numbers is unclear; they appear simply to be rough estimates, and not the result of actual population counts. Better numbers come in the 1818 *Huidian*, which showed a total *ding* population of 422,161, including Manchus, Mongols, Han bannermen, and bondservants. As the editors explain, this number depended upon the most recent census of the banner population that was available to the editors at the time, that of 1812.⁹ But even this estimate includes only the number of healthy males, excluding males below age 15, above age 60, the physically or mentally disabled, and all females. Thus the 1818 numbers work well enough perhaps for *m*, but still leave *n* open to question.

As already noted, determining the total strength of banner forces on the basis of the number and size of banner companies also leaves much to be desired, since it is unclear what the real size of those companies was at the time. Drawing upon a version of the *Huidian* dating from the 1760s, which gives a detailed list of all banner installations around the empire, Wei Yuan calculated that by the 1830s there were probably about 233,000 banner soldiers in the entire empire, divided between the capital (125,412) and the garrisons (107,768).¹⁰ A contemporary of Wei's, Wang Qingyun 王慶雲 (1798-1862), also touched on the question of banner population in his well-known study, *Shiqu yuji* 石渠餘記, written in about 1850. Apart from citing the 1818 *Huidian* figures already mentioned in discussing the present number of bannermen, Wang also made use of information in the appended *Precedents* (*Shili* 事例) section to figure the number of companies in the conquest era. But he thought it prudent to guard this information rather closely and refrained from publishing it in his book.¹¹

A number of twentieth-century scholars have also tackled the population problem. The

following table summarizes the various figures available for Eight Banner populations from Qing-period and post-Qing sources (Table 1).

Table 1. Previous Estimates of Eight Banner Population

Source	AT CONQUEST			CONTEMPORARY AT WRITING		
	Total banner forces (<i>bing</i>)	Total banner males (<i>ding</i>)	Total banner population (<i>renkou</i>)	Total banner forces (<i>bing</i>)	Total banner males (<i>ding</i>)	Total banner population (<i>renkou</i>)
Qing-period figures						
<i>Da Qing Huidian</i> ¹² (1699)				39,600 (excludes Beijing)		
<i>Da Qing Huidian</i> ¹³ (1734)				75,255 (excludes Beijing)		
<i>Baqi tongzhi (chujì)</i> (1739) ¹⁴				83,751 (excludes Beijing)		
<i>Huangchao wenxian tongkao</i> ¹⁵ (commissioned 1747)				210,265		
Shen Qiyuan ¹⁶ (ca. 1748)	80,000			120,000		
<i>Da Qing Huidian</i> ¹⁷ (1768)				106,726 (excludes Beijing)		
<i>Da Qing Huidian</i> (1818) ¹⁸					522,989	
<i>Qinding zhongshu zhengkao</i> ¹⁹ (1825)				275,791		
Wei Yuan, <i>Shengwu jì</i> ²⁰ (1839)	87,150			225,412		
Wang Qingyun, <i>Shiqu yuji</i> ²¹ (ca. 1850)					422,161	
Zeng Guofan, “Yitai bingshu” ²² (1851)				250,000		
Weng Tongjue, <i>Huangchao bingzhi kaolue</i> ²³ (1861)				272,591		

Yao Wendong, “Baqi bingzhi kao” ²⁴ (1888)	200,000			212,144	300,000	
<i>Da Qing Huidian</i> ²⁵ (1899)				232,109		
Iakinf, <i>Statisticheskoe opisanie</i> ²⁶ (1910)				262,375		
Post-Qing estimates						
Inaba Iwakichi ²⁷ (1913)					420,492	1,500,000 (early 1800’s)
<i>Qingshi gao</i> ²⁸ (1928)				126,989 (capital only)		
Luo Ergang ²⁹ (1944)	186,000			350,000 (ca. 1757)		
Mo Dongyin ³⁰ (1958)	200,000		650,000 (Manchus only, ca. 1661)	222,960 (1812) 225,429 (late 1800’s)		
John K. Fairbank and Edwin Reischauer ³¹ (1969)	169,000			350,000 (mid-1700’s)		
Wu Wei-p’ing ³² (1970)	112,600		633,242		422,161 (1812)	1,346,549 (1812)
<i>Manzu jianshi</i> ³³ (1979)				207,760+ (late 1700’s)		
Li Xinda ³⁴ (1982)	97,700	146,600				
Yang Xuechen and Zhou Yuanlian ³⁵ (1986)	99,600	118,400 ³⁶				
Teng Shaozhen ³⁷ (1989)						Less than 1,000,000 (late 17 th c.)
Fu Kedong and Chen Jianhua ³⁸ (1990)	75,000		350,000			
Pamela Crossley ³⁹ (1990)						3,500,000 (ca. 1800- 1850)

Li Yanguang and Guan Jie ⁴⁰ (1991)		123,000	615,000		172,350 (1735)	861,750 (1735) 5,260,686 (1909)
Chen Feng ⁴¹ (1992)	100- 150,000			250,000 (ca. 1800)		
Han Guanghui ⁴² (1996)	172,000			205,400 (1781 -- Beijing only)		
Liu Xiaomeng ⁴³ (1996)		346,000		226,989 (ca. 1850)		

In sum, estimates of banner forces at the time of the conquest vary from 60,000 to 350,000, with most clustered around 100,000-150,000. Thanks to more complete sources, we have a much better idea of the size of the banner military population in the late eighteenth and nineteenth centuries – about 250,000 – but the dimensions of the overall banner population including women, children, the aged, the disabled, and the non-military adult male population at this or at any point during the Qing remains a guess. In the remainder of this paper, we seek to remedy the situation by providing independent estimates based on application of traditional demographic techniques to archival sources.

Archival Figures for Eight Banner Populations

The last of the estimates in Table 1, from Liu 1996, deserves attention because it makes use of new information on the size of banner population. Though the author does not indicate his sources, his figure of 346,000 almost certainly is derived from a 1983 article by An Shuangcheng 安双成, “A Preliminary Analysis of the Number of *ding* in the Eight Banners in the Shunzhi, Kangxi, and Yongzheng Reigns.”⁴⁴ In this article, An, an archivist then working in the Manchu Section of the First Historical Archives in Beijing, presented figures from documents dated 1723 and 1724 that listed *ding* totals for 1648, 1720, 1721, and 1723. These documents were memorials from the Yi Prince, Yūnsiyang (Yin-xiang 胤祥), to his brother, the Yongzheng emperor, who had demanded firm information on the size of the banner population.⁴⁵ Most of these memorials are in Manchu, though at least one is in Chinese. In his article, An provided in tabular form only the data from 1720. The following table provides the essential data from all four years (Table 2).

Table 2. *Ding* totals for the Eight Banners by Ethnic Banner for 1648, 1720, 1721, and 1723

EB Division Year	Manchu	% of total	Mongol, Chakhar	% of total	Chinese banner, <i>booi</i> , other Han	% of total	Total <i>ding</i>
Shunzhi 5 (1648)	55,330	15.95%	28,785	8.3%	262,816	75.75%	346,931
Kangxi 59 (1720)	154,117	22.19%	61,562	8.86%	478,804	68.95	694,483
Kangxi 60 (1721)	154,117	22.12%	61,560	8.4%	481,004	69.4%	696,681
Yongzheng 1 (1723)	154,329	23.40%	58,798	8.9%	444,416	67.7%	657,573

Apart from providing the first really reliable number for able-bodied males in the Eight Banners at around the time of the conquest – 346,931 – these documents, which drew upon confidential archives kept in the palace, also broke down the population according to membership in the main divisions of the banners. We see that Manchus appear to represent only about 16 percent of the banner population and Mongols about 8 percent, while Han bannermen, bondservants, and “other Han” accounted for an astounding 76 percent of the total.⁴⁶ An’s article also revealed that the adult male population in the banners doubled between 1648 and 1720 and that the number of adult males in the Manchu banners during these seventy-two years roughly tripled. (The drop in the number of Han bannermen and others between 1721 and 1723 remains unexplained.)

One problem with the information presented in An’s article, however, is that the figures for the Chinese banners are lumped together with those for bondservants and for various miscellaneous groups in the banners. The impression given by the data that three-quarters of bannermen were in fact Han is belied by the reality that most bondservants were ethnically Manchu, not Han (a few were Mongol). An’s more specific information for 1720 shows that of a total 478,804 *ding* in the “*Hanjun*, bondservant, other Han” category, only 204,870 – 43 percent of the total – were actually enrolled in Chinese banner companies (or special companies reserved for Han who surrendered to the Qing in particular circumstances, e.g., *Fusi nikan* and *tai nikan*), while 239,494 were bondservants and 34,440 were eunuchs and “other Han.” If, conservatively, even one-half of bondservants were ethnically Manchu, then the total number of Manchus in the banners in 1720 was closer to 275,000, putting this group at around 57 percent of the total population. Since only a very few bondservant companies – those called “flag and drum companies” (*qigu zuoling* 旗鼓佐領/*cigu niru*) – were made up of Han Chinese, the adjusted proportion of Manchus in the banners was almost certainly even higher than this.⁴⁷

Unfortunately, in his 1983 article, An did not give any additional population breakdown for 1648, so we can only speculate as to the adjusted proportion of Manchus for the conquest period. However, in another article published in 1992, An came forward with more specific information not just on the 1648 banner population, but on the banner population in 1654 and 1657 as well.⁴⁸ The source for the 1648 population, as before, was the 1723 memorial of Yūnsiyang, which An reproduced for the first time (in romanized form), along with two memorials from the president of the Board of Revenue, Ceke (Che-ke 車克), dated 23 November 1657, which gave detailed figures for the banners from 1654 and 1657. That a period of three years separates the data suggests strongly that they are the result of the triennial census of the Eight Banners. Again, only a small portion of these data was tabulated by An. We present this information, together with the data for 1720, 1721, and 1723, in Table 3.

Table 3. Eight Banner *ding* population, 1648-1723

	1648	1654	1657	1720	1721	1723
Manchu EB	55,330	49,660	49,695	154,117	154,117	154,329
<i>% of sub-total/% of total</i>	42.5/16%	32.5/12.9%	32.2/12.7%	36.6/22.2%	33.9/22.1%	36.1/23.5
Mongol EB	28,785	25,927	26,053	61,562	61,560	58,798
<i>% of sub-total/total</i>	22.1/8.3%	17/6.7%	16.9/6.7%	14.6/8.9%	13.5/8.8%	13.8/8.9
Chinese EB (inc. <i>Fusi/tai nikan</i>, <i>baitangga</i>)	45,849	77,368	78,782	204,870	239,510	214,295
<i>% of sub-total/total</i>	35.2/13.2%	50.5/20.1%	51/20%	48.7/29.5%	52.6/34.4%	50.1/32.6%
SUB-TOTAL (EB <i>ding</i> population exclusive of <i>booi</i>)	130,164	152,955	154,530	420,549	455,187	427,332
<i>% of total</i>	37.5%	39.7%	39.4%	60.6%	65.3%	65%
<i>booi</i> & other Han	216,967	232,584	237,338	273,934	241,494	230,151 ⁴⁹
<i>% of total</i>	62.5%	60.3%	60.6%	39.4%	34.7%	35%
TOTAL (EB <i>ding</i> population including <i>booi</i>)	347,131	385,539	391,868	694,483	696,681	657,573

The above table gives a very different impression of the place of the Chinese banners in the overall Eight Banner population structure. Four years after the conquest, Han bannermen account for just 13.2 percent of all *ding*, increasing to almost one-third by the early 1720s. The total number of *ding* is just over 130,000 (37.5 percent of the total banner population), while bondservants and “other Han” (never a large number) is 217,000 (62.5 percent of the total). For the first time, we can also see here that while those enrolled in Manchu companies made up only 16 percent of the total banner population, they accounted for 42.5 percent of the regular fighting force, larger than both the Chinese banner and Mongol contingents (35.2 percent and 22.1 percent, respectively). If, as before, one takes half of the bondservant figure (108,500) and adds it to the figure for regular Manchus, the total is 163,830, or 47 percent of all adult banner males who should be counted as ethnically Manchu.

The data also show that all segments of the regular banner population saw an approximate tripling of their numbers between the first set of figures from 1648, 1654, and 1657 and the second from 1720, 1721, 1723; Manchus slightly more, Mongols and Chinese banners slightly less. The exception is in the bondservant population, which declined from 62.5 percent of total population in 1648 to just 35 percent in 1723. This reversal of proportions, from two-thirds to just one-third, is explained by the apparently unchanging number of people in this group (consistently between 215,000 and 275,000 adult males), a stability that stands in obvious contrast to the trend of population increase in the regular banners. The exact reasons for the failure of the bondservant population to increase remain unclear; we know that in the Kangxi reign some bondservants were able to convert to regular banner status, but many more no doubt left the banners altogether.

The documents An found also give very detailed information regarding the breakdown by

color banner within the ethnic divisions of the banners. Since the memorialist also provided data from the previous triennial census, we can use this to calculate in Table 4 percentages within each banner as well as percentage growth between banners for this period.

Table 4. Changes in Eight Banner *ding* Population by Ethnic and Color division, 1654 and 1657

	BYB	PYB	PWB	BWB	PRB	BRB	PBB	BBB	Total
MANCHU									
1654	6,416	7,157	5,869	5,999	5,849	6,445	5,932	5,993	49,660
1657	6,523	7,174	5,935	5,969	5,740	6,467	5,899	5,988	49,695
% change	+1.67%	+.24%	+1.13%	-.5%	-1.86%	+.34%	-.56%	-.08%	+.07%
MONGOL									
1654	4,381	3,550	2,997	3,270	2,778	3,105	3,105	2,741	25,927
1657	4,428	3,543	3,067	3,277	2,732	3,229	3,039	2,738	26,053
% change	+1.1%	-.20	+2.34%	+.21%	-1.66%	+3.99%	-2.13%	-.11%	+.49%
HAN CHINESE, including fusi Nikan									
1654	12,136	10,978	11,396	7,741	6,778	9,041	9,988	9,310	77,368
1657	12,232	11,864*	11,061	7,875*	7,135	9,060	10,190	9,365	78,782
% change	+.79%	+8.07%	-2.94%	+1.73%	+5.27%	+.21%	+2.02%	+.59%	+1.83%
BANNER TOTALS EXCLUSIVE OF BONDSERVANTS									
1654	22,933	21,685	20,261	17,010	15,405	18,591	19,025	18,044	152,955
1657	23,183	22,581	20,063	17,121	15,607	18,756	19,128	18,091	154,530
% change	+1.09%	+4.13%	-.98%	+.65%	+1.31%	+.89%	+.54%	+.26%	+1.03%
BONDSERVANTS (in Manchu banners)**									
1654	38,334	35,101	25,909	25,564	23,135	28,864	31,750	23,927	232,584
1657	40,269	35,427	26,527	25,955	23,639	29,603	31,966	23,952	237,338
% change	+5.05%	.93%	+2.42%	+1.53%	+2.18%	+2.56%	.68%	.11%	+2.04%
BANNER TOTALS INCLUSIVE OF BONDSERVANTS									
1654	61,267	56,786	46,170	42,574	38,540	47,455	50,775	41,971	385,539
1657	63,452	58,008	46,590	43,076	39,246	48,359	51,094	42,043	391,868
% change	+3.57%	+2.15%	+.91%	+1.18%	+1.83%	+1.91%	.63%	+.17%	+1.64%

*Figures include *fusi baitangga*, *tai nikan*.

** Ceke's memorial specifies that bondservants included Manchus, Mongols, and Han ("manju monggo booi nikan").

The information in this table allows us to see how unevenly population was distributed between the banners, and how uneven growth was between them.

The Technique

The archival data brought to light by An Shuangcheng represent a major opportunity to improve our knowledge of the size and structure of the Eight Banner population. Using these numbers, we can figure that regular Qing forces at the time of the conquest were probably not greater than 86,000 men, assuming that not more than two-thirds of all able-bodied men were engaged in fighting, of which 36,500 were Manchus, 19,000 were Mongols, and 30,500 were Han bannermen. Adding to this number bondservants, auxiliaries, and non-banner Han allies, total Qing forces in 1644 probably numbered between 110,000 and 150,000. This confirms the majority of estimates found in Table 1. The *Huidian* figures for *ding* in the early nineteenth century, approximately 422,000, cited by Wang Qingyun and Wu Wei-p'ing, however, appear too small, in spite of the removal of a large number of Han bannermen and others of lesser status from the banners in the middle of the Qianlong reign.

An's data, unfortunately, do not provide counts of the total population of the Eight Banners. One remedy to address this shortcoming would be to use the Household Dependent Method to calculate P , treating his numbers as an estimate of m . This still leaves the problem of selecting a value to use for n , the number of dependents per bannerman. In the absence of precise and reliable data on the composition of banner households, practically any choice of n is little better than an educated guess.

To estimate the population of the Eight Banners from An's figures, therefore, we make use of a demographic model of the relationship between population growth rates and age

structure known as Stable Population Theory.⁵⁰ With this approach, we only need the size of at least one age group and reasonable assumptions about life expectancy and the growth rate to construct an estimate of total population size. In this case, we can extrapolate the number of adult males in the banners from An's figures for the number of *ding*. Since the archival figures for banner *ding* are from censuses that were not used to assess taxes or allocate land, and therefore offered no incentive to conceal or exaggerate numbers, they form a sound base from which to extrapolate.

We summarize in Equation 2 below our procedure for deriving an estimate of population size, P , from the number of *ding* reported by An, m :

$$P = m * (\text{adult males aged 15-55}/\text{ding}) * (\text{total males}/\text{adult males}) * ((\text{males} + \text{females})/\text{males})$$

We multiply An's numbers for the number of *ding* by a series of ratios. We first estimate the total number of adult males aged 15 to 55 in the banners by multiplying m by an empirically derived ratio of adult males to active *ding*. There were more adult males in the Eight Banners than *ding* because some adult males were disabled and therefore not counted as *ding*. For the proportion of disabled, we have assumed two scenarios, one of 25 percent and one of 50 percent, yielding ratios of 1.33 and 2. These figures correspond to the range of disability rates found within the banner populations in the Northeast studied by Lee and Campbell.⁵¹ Since those were agricultural populations, and the populations for which we are constructing estimates here were military populations, these ratios are conservative.

To estimate of the total number of males, we multiply the number of adult males aged 15 to 55 by a ratio derived from application of Stable Population Theory. A stable population is one in which age patterns of mortality and fertility are constant, and the population growth rate is as a result also constant. In such a population, the proportion in each age group is also constant, and

can be calculated from the age pattern of mortality rates and the population growth rate. Because Stable Population Theory links age patterns of demographic rates, population growth rates, and population age composition together in a mathematical model, it is routinely used for historical populations as well as some contemporary populations where demographic data are sparse or incomplete, and only a few parameters can be measured directly or assumed.⁵² Most relevant to the situation at hand, application of mathematical models Stable Population Theory can produce an estimate of the age distribution of the population from a specification of its growth rate and age pattern of mortality.

While we don't have direct measures of the age patterns of mortality in our population, there are enough regularities in the age pattern of mortality in human populations for us to assume one based on likely values for life expectancy. For decades, demographers have observed that the age patterns of mortality associated with specific levels of life expectancy tend to fall into clearly discernible clusters. One of the earliest efforts to identify families of age patterns of mortality was by Coale and Demeny, who identified four families that they referred to as North, South, East, and West because of their loose association with the geographic locations where they were observed.⁵³ For each of these four families, Coale and Demeny created sets of model life tables, which, for a range of life expectancies, specified the age pattern of mortality corresponding to each life expectancy. For our age patterns of mortality, we consider two scenarios corresponding to West Levels 6 and 8 in the Coale and Demeny tables. The first corresponds to a life expectancy of 30.6 years and the second to one in which the life expectancy is 34.9 years. These life expectancies lie well within what could be expected of overall life expectancy in China at this time, and the West family was identified by Lee and Campbell as the one that corresponded best to the northeast Chinese populations for which they had data that

allowed direct estimates of mortality rates..

To produce a ratio that turns our count of adult males into an estimate of the total number of males, we rely on the fact that for each combination of model life table family and life expectancy, Coale and Demeny provide a set of calculated stable population age distributions corresponding to different population growth rates. Rather than offer a single estimate, we consider a total of six scenarios. First, for West Level 6 and then again for West Level 8, we consider three different scenarios: 0 percent, 1 percent, and 2 percent per annum. Collectively these span the range of population growth rates that might have been observed during the Qing, with 0 corresponding to no growth at all, and 2 percent corresponding to rapid growth, with a population doubling time of around 35 years. From the late seventeenth century to the late eighteenth century, the high growth rate scenarios of 1 or 2 percent per annum may be most relevant.

For gender ratios, we have assumed a single scenario of 85 females for every 100 males. In the Liaoning banner populations analyzed by James Lee, Cameron Campbell, and their associates, there were 83.5 females aged 16 or more *sui* for every 100 males. Whether the actual ratio for the banners overall was higher or lower would have depended on how levels of female infanticide and excess female mortality compared to those in the Liaoning populations. If they were lower, and the ratio of females to males was as a result higher than we have allowed for here, the actual banner population would be greater than we have estimated here.

We present the results in the following tables. To conserve space, we present estimates for only two dates, 1648 and 1720. The first represents the conquest epoch and the second the period after the initial Qing consolidation in the late Kangxi reign.

Tables 5a-b. Eight Banner population, assuming life expectancy 30.6 and population growth 0 percent

5a. Scenario 1. Disability rate 25 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	112,453	58,535	93,235	264,223	441,205	705,428
	females	95,585	49,755	79,250	224,590	375,024	599,614
	total	208,038	108,290	172,485	488,813	816,229	1,305,042
1720	males	313,399	125,248	416,606	855,253	557,048	1,412,301
	females	266,389	106,461	354,115	726,965	473,491	1,200,456
	Total	579,788	231,709	770,721	1,582,218	1,030,539	2,612,757

5b. Scenario 2. Disability rate 50 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	179,925	93,655	149,175	422,755	705,298	1,128,053
	females	152,936	79,607	126,799	359,342	599,503	958,845
	total	332,861	173,262	275,974	782,097	1,304,801	2,086,898
1720	males	501,438	200,397	666,569	1,368,404	891,277	2,259,681
	females	426,222	170,338	566,584	1,163,144	757,586	1,920,730
	Total	927,660	370,735	1,233,153	2,531,548	1,648,863	4,180,411

Tables 5c-d. Eight Banner population, assuming life expectancy 30.6 and population growth 1 percent

5c. Scenario 3. Disability rate 25 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	120,448	62,696	99,863	283,007	472,571	755,578
	females	102,381	53,292	84,884	240,557	401,685	642,242
	total	222,829	115,988	184,747	523,564	874,256	1,397,820
1720	males	335,679	134,152	446,223	916,054	596,650	1,512,704
	females	285,327	114,029	379,290	778,646	507,153	1,285,799
	Total	621,006	248,181	825,513	1,694,700	1,103,803	2,798,503

5d. Scenario 4. Disability rate 50 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	192,717	100,314	159,780	452,811	756,114	1,208,925
	females	163,810	85,267	135,813	384,890	642,697	1,027,587
	total	356,527	185,581	295,593	839,182	1,398,811	2,236,512
1720	males	537,087	214,644	713,957	1,465,688	954,640	2,420,328
	females	456,524	182,447	606,864	1,245,835	811,444	2,057,279
	Total	993,611	397,091	1,320,821	2,711,523	1,766,084	4,477,607

Tables 5e-f. Eight Banner population, assuming life expectancy 30.6 and population growth 2 percent

5e. Scenario 5. Disability rate 25 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	131,566	68,484	109,081	309,131	516,195	825,326
	females	111,831	58,211	92,719	263,761	438,766	701,527
	total	243,397	126,695	201,800	571,892	954,961	1,526,853
1720	males	366,666	146,536	487,414	1,000,616	651,727	1,652,343
	females	311,666	124,556	414,302	850,524	553,968	1,404,492
	Total	678,332	271,092	901,716	1,851,140	1,205,695	3,056,835

5f. Scenario 6. Disability rate 50 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	210,506	109,574	174,530	494,610	825,912	1,320,522
	females	178,930	93,138	148,351	420,419	702,025	1,122,444
	total	389,436	202,712	322,881	915,029	1,527,937	2,442,966
1720	males	586,665	234,458	779,863	1,600,986	1,042,764	2,643,750
	females	497,815	199,289	662,884	1,359,988	886,349	2,246,337
	Total	1,084,480	433,747	1,442,747	2,959,974	1,929,113	4,890,087

Tables 6a-b. Eight Banner population, assuming life expectancy 34.9 and population growth 0 percent

6a. Scenario 7. Disability rate 25 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	111,871	58,232	92,752	262,855	438,920	701,775
	females	95,090	49,497	78,839	223,426	373,082	596,508
	total	206,961	107,729	171,591	486,281	812,002	1,298,283
1720	males	311,776	124,599	414,448	850,823	554,163	1,404,986
	females	265,010	105,909	352,281	723,200	471,039	1,194,239
	Total	576,786	230,508	766,729	1,574,023	1,025,202	2,599,225

6b. Scenario 8. Disability rate 50 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	178,993	93,170	148,803	420,966	702,272	1,123,238
	females	152,144	79,195	126,483	357,822	596,931	954,753
	total	331,137	172,365	275,286	778,788	1,299,203	2,077,991
1720	males	498,841	199,359	663,117	1,361,317	886,661	2,247,978
	females	424,015	169,455	563,650	1,157,120	753,662	1,910,782
	Total	922,856	368,814	1,226,767	2,518,437	1,640,323	4,158,760

Tables 6c-d. Eight Banner population, assuming life expectancy 34.9 and population growth 1 percent

6c. Scenario 9. Disability rate 25 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	118,955	61,919	98,625	279,499	466,716	746,215
	females	101,112	52,631	83,831	237,574	396,709	634,283
	total	220,067	114,550	182,456	517,073	863,425	1,380,498
1720	males	331,520	132,490	440,694	904,704	589,257	1,493,961
	females	281,792	112,617	374,590	768,999	500,869	1,269,868
	Total	613,312	245,107	815,284	1,673,703	1,090,126	2,763,829

6d. Scenario 10. Disability rate 50 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	190,329	99,071	157,801	447,201	746,746	1,193,947
	females	161,780	84,210	134,131	380,121	634,734	1,014,855
	total	352,109	183,281	291,932	827,322	1,381,480	2,208,802
1720	males	530,432	211,984	705,111	1,447,527	942,812	2,390,339
	females	450,867	180,186	599,344	1,230,397	801,390	2,031,787
	Total	981,299	392,170	1,304,455	2,677,924	1,744,202	4,422,126

Tables 6e-f. Eight Banner population, assuming life expectancy 34.9 and population growth 2 percent

6e. Scenario 11. Disability rate 25 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	129,181	67,242	107,104	305,527	506,838	810,365
	females	109,804	57,156	91,038	257,998	430,812	688,810
	total	238,985	124,398	198,142	561,525	937,650	1,499,175
1720	males	360,019	143,380	478,579	981,978	639,913	1,621,891
	females	306,016	121,873	406,792	834,681	543,926	1,378,607
	Total	666,035	265,253	885,371	1,816,659	1,183,839	3,000,498

6f. Scenario 12. Disability rate 50 percent

		Manchu	Mongol	Han	Sub-total	<i>boo</i> i/other	Total
1648	males	206,290	107,587	171,366	485,243	810,940	1,296,183
	females	175,347	91,449	145,661	412,457	689,299	1,101,756
	total	381,637	199,036	317,027	897,700	1,500,239	2,397,939
1720	males	576,031	230,207	765,726	1,571,964	1,023,861	2,595,825
	females	489,626	195,676	650,867	1,336,169	870,282	2,206,451
	Total	1,065,657	425,883	1,416,593	2,908,133	1,894,143	4,802,276

Summarizing these results, we find that at the time of the conquest, the Eight Banner population at large was within the range of 1.3 and 2.44 million people, and that seventy years later it had grown to between 2.6 and 4.8 million. The former number – our conservative estimate of the size of the banner population – is twice to four times as large as any previous estimates of banner population at the time of the conquest. Population in the Manchu banners in the middle seventeenth century was somewhere between 206,000 and 390,000, growing by 1720 to between 577,000 and 1.08 million. (High- and low-end estimates for each population group are tabulated in Table 7.) Everywhere, the most positive outcome is Scenario 6, while the most negative is Scenario 7. The single variable with the greatest influence on the outcome turns out to be the rate assumed for disability.

Table 7. Range of Estimated Population Sizes (<P>) for the Eight Banners, 1648 and 1720

		Manchu	Mongol	Chinese	Sub-total	Bondservants/other	Total
1648	males	111,871- 210,506	58,232- 109,574	92,752- 174,530	263,319- 495,485	438,920- 825,912	702,239- 1,321,397
	females	95,090- 178,930	49,497- 93,138	78,839- 148,351	223,821- 421,162	373,082- 702,025	596,903- 1,123,188
	total	206,961- 389,436	107,729- 202,712	171,591- 322,881	487,140- 916,647	812,002- 1,527,937	1,299,142- 2,444,585
1720	males	311,876- 586,665	124,599- 234,458	414,448- 779,863	850,763- 1,600,872	554,163- 1,042,764	1,404,926- 2,643,635
	females	265,010- 497,815	105,909- 199,289	352,281- 662,884	723,149- 1,360,741	471,039- 886,349	1,194,187- 2,247,090
	Total	576,786- 1,083,480	230,508- 433,747	766,279- 1,442,747	1,573,912- 2,961,613	1,025,202- 1,929,113	2,599,113- 4,890,725

As before, in thinking about the overall size of the Manchu population, it should be kept in mind that in addition to those enrolled in the regular Manchu banners, a significant proportion of the “bondservant/other” population – certainly well over 50 percent – was registered as Manchu. Only if one keeps this element of the Manchu population in mind does the estimate of Mo Dongyin for Manchus at the time of the conquest (600,000) appear reasonable.

Conclusion

The size of the Eight Banner population generally, and the Manchu population especially, has long been the subject of scholarly conjecture. That the Qing dynasty was established by a people known to be dwarfed in numbers by the Han Chinese people whom they ruled has made the question one of real significance, and not just idle curiosity. Since virtually all of the original Qing people were enrolled in the banners, by counting the number of people in the banners we can get a good idea of just how numerically strong the Qing cause was. As the first section of this essay has shown, estimates of the size of this population have varied tremendously, making it hard to know which to credit and which to dismiss. Moreover, even though reasonably trustworthy estimates of the able-bodied male (*ding*) population appeared long ago, no equally reliable numbers have ever emerged as to the overall size of any part of the banner population.

This paper has combined very good figures of *ding* population taken from archival documents published in 1983 and 1992 with plausible demographic models that are far superior to the crude type of calculations made using the Household Dependent Method. This method does not permit us to come up with a “magic number” for each group at each date. Rather, using variables such as life expectancy, disability, rate of population growth, and gender ratios, the method we have used allows us to predict a range of scenarios which frame the possible

expectations for banner populations, given the archival figures at our disposal. These figures show that in the 1640s, when the Qing first established control over China, the total number of those enrolled in the banner system was between 1.3 and 2.44 million, that is, between 1 and 2 percent of the contemporary Chinese population, assuming a figure of 100 million for ca. 1650. Seventy-two years later, when Qing control was already firmly consolidated, the total population in the Eight Banners had grown considerably, to between 2.6 and 4.9 million, or 2 and 4 percent of the Han population (then at around 120-130 million). This proportion, while still relatively small, comes to twice the size of most previous estimates.⁵⁴

With a doubling of the population in such a short time, it is not surprising, then, that in the 1720s the court began to act to limit banner membership. Given the rapid increase of numbers in the Chinese banners in particular, it is also not surprising that the court decided to direct such efforts mainly at them. Unfortunately, because we know that large numbers of people were in fact removed from the banner lists in the middle Qianlong reign, in effect artificially distorting the population structure, it is not possible to accurately project population size into the later eighteenth or nineteenth centuries. Nonetheless, we at last know with some confidence the scale of the banner population in the first half of the Qing, the number of soldiers in the conquest, and the proportion to the general population the conquering Manchus represented.

NOTES

¹ *Da Qing Huidian* (1690 edition), *fanli*, p. 4a: “[Because] the troops and horses of the Eight Banners are [continually regrouping] like the clouds, it is difficult to count them. Details on troops in the Zhili and provincial garrisons and on the Green Standard Army troops are all

provided in sequence [below], according to their location.” Identical language is used in the Yongzheng *Huidian* of 1734; it does not appear in the 1768 *Huidian*. See the comments by Wang Qingyun in *Shiqu yuji* (ca. 1850; Beijing: Beijing guji chubanshe, 1985), *juan* 2, pp. 75-76. The first official publication to carry complete information on the size of banner forces deployed around the country was the *Huangchao wenxian tongkao*, ordered in 1747. See Table 1 below.

² Wei Yuan, *Shengwu ji* (1842; Beijing: Zhonghua shuju, 1984), *juan* 11, pp. 467.

³ Nominally, a company was made up of 300 men (*zhuangding* 壯丁/*haha*) along with wives, children, and other dependents. But we know that this number was often not met. The actual number varied between 150 and 300, stabilizing under the Kangxi emperor (r. 1661-1722) to 130-140 (*Baqi tongzhi*, *juan* 17, p. 297). In the later Qing this figure could sometimes dip below 100. See also note 8 below.

⁴ Most notably, the 1739 *Baqi tongzhi* and the 1764 edition of the *Huidian* differ on this point. It was to resolve this disagreement – and not, it should be pointed out in fairness, to speculate on the size of the banner population – that Fang Chaoying wrote his famous article, “A Technique for Estimating the Numerical Strength of the Early Manchu Military Forces” (*Harvard Journal of Asiatic Studies* 13.1-2 [June 1950]). Fang showed clearly that the figures in the *Baqi tongzhi* were correct. One scholar has attributed to Fang an estimate of “slightly under 170,000” in the Qing armies at the time of the conquest, a figure supposedly derived by multiplying the number of companies by 300 men per company (Pamela Kyle Crossley, *Orphan Warriors* [Princeton: Princeton University Press, 1990], p. 231 n.1). We find no such estimate in Fang’s article, and assume that this figure must be the result of calculations by the author herself, extrapolated upon numbers found in Fang’s work. Fang’s only comment on the overall size of the early Qing armies was to the effect that “the total number of Banner Forces sent to the various fronts during

the seven years of this war [i.e., the Rebellion of the Three Feudatories]” was between 160,000 and 200,000.” This would, of course, correspond to *bing*, not *ding* (Fang, “A Technique,” p. 202).

⁵ In principle, every healthy male 15 years of age and over was enrolled in a company, together with his entire household. Qing regulations further stipulated that one of every three must serve as a soldier (in the Chinese banners this was one of every four or five), though in the conquest period no doubt a higher proportion of males was pressed into active duty. But it is doubtful that company size ever really reflected the actual number of *zhuangding* in the households attached to companies. For this reason, it is misleading to rely on the number of companies to calculate the number of males in the banners. This is illustrated by the following example: In 1647 the total number of companies in the Eight Banners was 600 (Fang, “A Technique,” Table II), plus an additional 74 bondservant companies. Assuming from 150 to 300 men per company, and assuming that this figure equals the total number of *ding* per company, we arrive at a range of between 101,100 and 202,200 *ding*. However, as the archival figures presented in Table 2 below show, the total number of *ding* in 1648 was actually 346,931, 40% greater than the total predicted number of males. Moreover, this discrepancy widened over time, as population grew (while the number of companies grew, too, this expansion came to a halt in the mid-1700’s, with around 2,000 companies in the capital and provinces). Hence it is vital to distinguish between nominal company size (i.e., *zhuangding* available for potential military service) and the actual number of males in a company (i.e., all *ding*).

⁶ Documents from the Eight Banner garrisons show household size varied from between three dependents per active soldier at some garrisons to as much as nine or ten dependents per active soldier at others. See Mark Elliott, *The Manchu Way: Ethnic Identity and the Eight Banners in*

Late Imperial China (Stanford: Stanford University Press, 2001). See also the estimates in Han Guanghui, *Beijing lishi renkou dili* (Beijing: Beijing daxue chubanshe, 1996), pp. 122-123.

⁷ Various types of people of unfree status (“slaves”) also lived in banner households, but they are never counted and do not figure in any of our calculations here.

⁸ Shu-he-de, “Baqi kaiken biandi shu” (1737), Shen Qiyuan, “Nishi wuce” (n.d.), in He Changling, ed., *Jingshi wenbian* (1826), *juan* 35.

⁹ *Da Qing Huidian* (80 *juan*, 1818), *juan* 12, pp. 22a-b. See Table 1. Qing regulations called for a complete count of the banner population every three years, household by household, company by company; see, for instance, *Baqi tongzhi (chuj)* (1739, 250 *juan*), *juan* 17, pp. 296-197, *Da Qing Huidian shili* (preface 1818, 920 *juan*), *juan* 839, p. 3a, and *Qinding hubu zeli* (1866, 100 *juan*), *juan* 1, p. 1a-2a. Existing documents relating to subsidiary banner populations (mostly agricultural serfs) in the Northeast indicate that such counts were indeed carried out regularly throughout the Qing. Unfortunately, population registers for regular banner populations in Beijing and the garrisons of the type that the *Huidian* compilers probably consulted have not survived in similar numbers. Searches by Elliott have turned up a few examples, but only a small fraction of the number one would expect to find. Some of these materials are in the library of the Chinese Academy of Social Sciences; most are in the holdings of the First Historical Archives of China, Beijing. They are listed in two catalogues, No. 544/23-2 (*Baqi dutong yamen quanzong*) and No. 497/13-2 (*Hubu/duzhibu*). Thanks to Ms. Zou Ailian of the First Historical Archives for her assistance in locating these materials. Other registers are available from the Genealogical Society of Utah; for a description of these sources, see Melvin Thatcher, “Selected Sources for Late Imperial China at the Genealogical Society of Utah,” *Late Imperial China* 19.1 (June 1998), pp. 111-129.

¹⁰ Wei, *Shengwu ji*, *juan* 11, pp. 467-469. For the capital, these totals break down as follows: 21,385 guardsmen, 34,627 cavalry, 21,158 infantry, 27,408 supernumeraries, 10,834 artisans and others, and 10,000 gendarmerie. For the garrisons: 8,758 in the metropolitan zone; 35,360 in the Northeast; 45,540 in the provinces; 15,140 in Xinjiang; and 2,970 posted to the imperial mausolea, hunting grounds, and Willow Palisade gates.

¹¹ Wang, *Shiqu yuji*, *juan* 2. See also Fang, “A Technique,” 194. Wang consulted the *Da Qing Huidian shili* (1818, 920 *juan*), *juan* 837.

¹² *Da Qing Huidian* (1690, 162 *juan*), *juan* 82. This figure excludes officers.

¹³ *Da Qing Huidian* (1732, 250 *juan*), *juan* 114, 217. Figure excludes officers.

¹⁴ Ortai et al., eds., *Baqi tongzhi (chuj)* (1739, 250 *juan*), *juan* 26-28. Figure includes officers. The breakdown is as follows: 3,735 in the metropolitan zone, 28,536 in the Northeast, 51,480 in the provinces. No complete total of the number of banner troops in the capital appears here, as the editors chose to repeat the same evasive language as the earlier *Huidian* (*juan* 26, p. 490). Moreover, though there is detailed information on the number of companies, information on company size is varied and conflicting. There is, however, at least one reference to the total number of Chinese banner soldiers in the capital ca. 1730 (17,528) and the additional number of able, but idle, Manchu, Mongol, and Han bannermen (10,000; see *juan* 26, p. 506).

¹⁵ *Huangchao wenxian tongkao* (1747, 300 *juan*), *juan* 179, 181-189. This figure breaks down to 100,425 in the capital and 109,840 in the garrisons. For garrisons in Shengjing, Jilin, Heilongjiang, and the metropolitan area, we have relied on the totals provided in Table 2.1 in Chen Feng, *Qingdai junfei yanjiu* (Wuhan: Wuhan daxue chubanshe, 1992), p. 20. Note that the total there, according to his own figures, should read 105,459.

¹⁶ Shen, “Nishi wuce.”

¹⁷ *Da Qing Huidian* (1764, 100 *juan*), *juan* 96. Includes officers. No figures are presented for Beijing, although the number of companies (1,166) is given, together with the statement that in principle there are 300 men per company. However, the editors disavowed any pretense at providing an accurate total, noting that they wished only “to give a sense of the numbers involved.”

¹⁸ *Da Qing Huidian* (1818, 80 *juan*), *juan* 12. The breakdown is as follows: In the capital and provinces 222,968 Manchus, 55,639 Mongol (plus 20,729 Oirats, Chakhars, Bargas, and others), 143,554 Han bannermen and bondservants, 80,099 unattached servants. The total of Manchus, Eight-Banner Mongols, and Han bannermen comes to 422,161, the figure cited by Wang Qingyun.

¹⁹ *Qinding zhongshu zhengkao* (1825), *juan* 31. Figures are cited from Chen, *Qingdai junfei yanjiu*, pp. 20-21. Note that the total there (275,851) is in error.

²⁰ Wei, *Shengwu ji*, *juan* 11. Figures for conquest derived by multiplying number of companies by 150 men per company.

²¹ Wang, *Shiqu yuji*, *juan* 4. Figures are attributed to 1818 *Huidian*.

²² Zeng Guofan, “Yitai bingshu,” in *Zeng Wenzheng gong zougao*, *juan* 1, cited in Chen Feng, *Qingdai junfei yanjiu*, p. 21. Chen disagrees with Luo Ergang, who claimed that Zeng’s 250,000 was an error for 350,000, but Luo seems persuasive. See *Luying bingzhi* (1945; 2nd ed., Beijing: Zhonghua shuju, 1984), p. 7 n. 7.

²³ Weng Tongjue, *Huangchao bingzhi kaolue* (6 *juan*, 1875), *juan* 2, p. 4b-7a.

²⁴ Yao Wendong, “Baqi bingzhi kao,” in Ge Shijun, ed., *Jingshiwen xubian* (1888, 120 *juan*), *juan* 62. Regarding the conquest figure, Yao (following Wei Yuan) wrote that, “In the first year of Shunzhi, [when] the Shizu emperor established the capital at Yanjing, all the Eight Banner

soldiers who took part in the conquest [lit., “who followed the dragon through the pass”] numbered not less than 200,000” (順治元年世祖章皇帝定都燕京各八旗兵從龍入關者不下二十萬). The later figures show 104,376 in capital and 107,768 outside the capital (8,758 in metropolitan garrisons, 35,360 in the Northeast garrisons, 45,540 in the provincial garrisons, 15,140 in Xinjiang garrisons, 2,970 at the imperial mausolea, and 27,000 supernumeraries). The figure of 300,000 refers to *zhuangding*.

²⁵ *Da Qing Huidian* (120 *juan*, 1899 ed.), *juan* 86.

²⁶ Iakinf (N. Ia. Bichurin), *Statisticheskoe opisaniie Kitaiskoi imperii v dvukh chastiakh* (Beijing: Russian Ecclesiastical Mission, 1910), p. 129. This figure breaks down to 135,929 in Beijing, 100,038 in the garrisons, and 27,408 supernumeraries.

²⁷ Inaba Iwakichi, *Shinchō zenshi* (Tokyo: 1913). Figures are for the early nineteenth century. Divisions break down as follows: 220,960 Manchus, 55,639 Mongols, 143,893 Chinese banners, Imperial Household Department, and bondservants. The figures are attributed to Wei Yuan, but are clearly those of the 1818 *Huidian*.

²⁸ Zhao Erxun, eds., *Qingshi gao* (Beijing: Zhonghua shuju, 1976), *juan* 130. Though there is a description of the garrison system, tabulations of its size are absent, except for the Northeast (35,300).

²⁹ Luo, *Luyingbing zhi*, p. 7.

³⁰ Mo Dongyin, *Manzushi luncong* (Beijing: Renmin chubanshe, 1958), pp. 130-135, where the number of Manchus at the time of the conquest is given at 100,000. The figure for the total Manchu population in 1661 is derived by calculating an average number of 9 dependents (p. 134) per soldier. The total for the late 1800s is arrived at by using numbers from *Qingshi gao* and 1899 *Huidian*, but omits officers in capital. Mo also provides a summary of Ming and Korean

estimates of Qing forces.

³¹ John K. Fairbank and Edwin Reischauer, *East Asia: The Great Tradition* (Boston: Houghton Mifflin, 1969), p. 222. No source given.

³² Wu Wei-p'ing, "The Development and Decline of the Qing Eight Banners" (Ph.D. thesis, University of Pennsylvania, 1970), pp. 90-91, 100-103. Wu derives his figure for conquest *bing* by multiplying the number of companies by 200 men per company. The figure for 1812 *ding* is derived from 1818 *Huidian* (discrepancies with other figures owe to arithmetical error). Figure for 1812 *renkou* is derived by multiplying *ding* figure by 3, then adding 80,000 "unattached bondservants." Figure for conquest *renkou* is derived by taking Wu's estimate that the banner population at most doubled from the time of the conquest, and halving 1812 figure. Wu does not provide this figure himself.

³³ *Manzu jianshi* (Beijing: Zhonghua shuju, 1979) pp. 100-101. Figures derived from 1764 *Huidian*. Authors say only that Beijing forces total "over 100,000"; total for garrisons specified at 107,760.

³⁴ Li Xinda, "Ruguan qian de baqi bingshu wenti," *Qingshi luncong* 3 (Beijing: Zhonghua shuju, 1982), pp. 155-163. Figures derived by multiplying number of companies by 200 men per company.

³⁵ Yang Xuechen and Zhou Yuanlian, *Qingdai baqi wanggong guizu xingshuai shi* (Shenyang: Liaoning renmin chubanshe, 1986), p. 137. Their figures are derived by multiplying the number of companies by 200 men per company, then multiplying by .666 to get number of actual soldiers. The total shown is the result of this operation, plus the total number of Han bannermen (it should be 78,600 if same percentage of total Han bannermen (32,800) is assumed to be active military).

³⁶ To reflect the total of banner forces only, the number of non-banner soldiers associated with Qing invasion (mainly armies led by Geng Zhongming, Shang Kexi, and Kong Youde), which they say is 20,000 men, is subtracted from their total of 138,400.

³⁷ Teng Shaozhen, *Baqi zidi* (Beijing: Zhongguo huaqiao chubanshe, 1989), p. 54, citing *Qing Shengzu (Kangxi) huangdi shilu*, juan 96. We have been unable to confirm this figure in the *Shilu*.

³⁸ Fu Kedong and Chen Jiahua, “Baqi jianli qian Manzhou niulu he renkou chutan,” in Wang Zhonghan, ed., *Manzushi yanjiuji* (Beijing: Zhongguo Shehui kexue chubanshe, 1990), pp. 276-277. Figures given are for 1619. Figure for total population is derived by multiplying number of companies by average 200 men per company and then multiplying again by 5 for estimated number of dependents (4).

³⁹ Pamela Kyle Crossley, *Orphan Warriors* (Princeton: Princeton University Press, 1990), pp. 23, 91, 252. On p. 23, Crossley says that the total garrison population for the later eighteenth century “probably hovered near three million.” To this we have added her estimate of the population of Beijing, which she elsewhere says to have been “as many as half a million Manchus” in the mid-nineteenth century. She gives as the basis for this estimate the figure of 150,000 in the Beijing garrison cited by Thomas Taylor Meadows in *The Chinese and Their Rebellions* (London, 1856), p. 31.

⁴⁰ Li Yanguang and Guan Jie, *Manzu tongshi* (Shenyang: Liaoning minzu chubanshe, 1991), pp. 309-310. For *ding* totals, figures are derived by multiplying the number of companies by average of 200 men per company (for conquest period) and by 150 men per company (for Yongzheng and later). For total population, the number of *ding* is multiplied by 5 for estimated number of dependents (4); since Li and Guan estimate that there were actually 5 dependents per

ding, figures for *ding* should in fact be multiplied by 6, yielding higher population estimates (738,000 and 1,034,100, *respectively*). The final population estimate for 1909 is obtained by first deriving a household:population ratio of 6.26 (derived using the number of known households in the Northeast at this time – 369,055 – with a total population estimate for the Northeast of 2.31 million), and then multiplying it by the number of households in the banners according to a 1909 census – 368,548. The resulting figure (2,307,110), is then added to the 2.31 million living in the Northeast, for a total of 4.62 million. 5,260,686, which they claim to be the “Manchu population” (*Manzu renkou* 滿族人口) at the turn of the century, is evidently an arithmetical error.

⁴¹ Chen, *Qingdai junfei yanjiu*, pp. 19-23. Figure for conquest derived from base figures in Li Xinda. Figure of 250,000 is based on *bing* totals drawn from *Huangchao wenxian tongkao*, *Huangchao bingzhi kaolue*, and the 1899 *Huidian*.

⁴² Han Guanghui, *Beijing lishi renkou dili*, pp. 121-124. Figures derived by multiplying number of companies by average of 150 soldiers (*rending*) per company.

⁴³ Liu Xiaomeng, *Baqi zidi* (Fuzhou: Fujian renmin chubanshe, 1996), p. 9. No source is provided for his conquest figure. The figure for ca. 1850 is derived from numbers in *Qingshi gao* (garrison population is only estimated at “over 100,000”). Liu (pp. 13-14) also provides figures for population of Beijing at this time (634,000), derived by multiplying *Qingshi gao* figure for paid positions in Beijing (126,989) and multiplying by 5 for the number of dependents. However, since Liu claims that number of dependents was 5 per *bing*, the correct estimate of Beijing banner population should be the number of officers and soldiers, plus dependents, which brings the total to 762,000.

⁴⁴ An Shuangcheng, “Shun-Kang-Yong sanchao baqi ding’e qianxi,” *Lishi dang’an* 1983.2, pp.

⁴⁵ The edict is included on page 429 of An's 1992 article (see below): "How many able-bodied males (*nanding*) were there at the time [we] entered Beijing from Shengjing? How many are there now? Investigate and report."

⁴⁶ An's article is also the source for the statement by Susan Naquin and Evelyn Rawski that "by 1648, fewer than 16 percent of the bannermen were actually of Manchu blood." *Chinese Society in the Eighteenth Century* (New Haven: Yale University Press, 1987), p. 4. The note to this article appears on p. 240 n3.

⁴⁷ On the ethnic divisions among bondservants, see Elliott, *The Manchu Way*, Chapter 1. The reader is advised that the classification of populations here and throughout this article as "Manchu," "Mongol," and "Han" reflects the classification systems in force at the time, and not any judgment on the part of the authors as to the basis upon which such categories were created, or how individual identity, ethnic or otherwise, may have been constructed. On these matters, scholarly opinions remain divided: relevant discussions may be found in Elliott 2001 and in the work of Pamela Kyle Crossley, including *Orphan Warriors* (Princeton: Princeton University Press, 1990) and *A Translucent Mirror* (Berkeley: University of California Press, 2000). See also Elliott, "Ethnicity in the Qing Eight Banners," in Pamela Crossley, Helen Siu, and Donald Sutton, eds., *Empire at the Margins* (Berkeley: University of California Press, 2006), pp. 28-57.

⁴⁸ An Shuangcheng, "Shunzhi chao baqi nanding Manwen dang'an xuanyi," *Manxue yanjiu* 1 (1992), pp. 413-421.

⁴⁹ Separate figures for Han bannermen and *boo*i for 1723 are not given in An's 1983 article. As noted above, he cites only a total number of 444,416 *ding* in the Chinese banners, bondservant companies, and miscellaneous other Han populations under the banners. But we can estimate the

breakdown of this population by subtracting the total Manchu and Mongol banner population (213,127) from the total EB population (657,573), for a total of 444,446 (not 444,416). If, as in 1721, “*boo*i and other Han” still constituted about 35% of the total EB population in 1723, that should give roughly 230,151 for this group. Subtracted from 444,446, this leaves 214,295 in the Chinese banners. Percentages are based on these hypothetical totals.

⁵⁰ For an introduction to stable population theory, see Ansley Coale and Paul Demeny, *Regional Model Life Tables and Stable Populations* (Princeton: Princeton University Press, 1966/1983).

⁵¹ James Lee and Cameron Campbell, *Fate and Fortune* (Cambridge: Cambridge University Press, 1995), p. 45.

⁵² For an introduction to stable population theory and its applications, see Chapter 7 of Samuel H. Preston, Patrick Heuveline and Michel Guillot, *Demography: Modeling and Measuring Population Processes* (New York: Wiley Blackwell, 2000).

⁵³ See the review of estimates of life expectancy in historical China in James Z. Lee and Wang Feng, *One Quarter of Humanity: Malthusian Mythologies and Chinese Realities* (Cambridge, Mass.: Harvard University Press, 1999), p. 54.

⁵⁴ It may be argued that the figures represented above still span a wide range and are in fact no more “precise” than those arrived at by guesses made about how many banner households there were and how big they might have been. To this, we would respond that, until and unless large numbers of additional archival records are found documenting the composition of banner households in greater detail, we are unlikely ever to have very much more exact numbers of these populations. However, because we have depended here upon tried-and-true methods of demographic analysis based on real data, and not guesses based on nominal norms, the figures we have arrived at can be approached with much greater confidence. Even if, as is true in a few

instances, there is broad agreement between the end results arrived at using the two different types of calculation, this should not be understood as providing a confirmation of the general validity of the Household Dependent Method, only of the principle that if one gathers together enough different estimates, some are bound to fall within the ranges determined by social science theory.